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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,374

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Peter Nord

OUTT 3475

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EXAMINER

KO, STEPHEN K

ART UNIT

PAPER NUMBER

1792

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,374	Applicant(s) NORD ET AL.	
	Examiner STEPHEN KO	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Objection to the Specification is withdrawn in view of applicant(s) amendment to the specification.

Claim Objections

2. Objection to claim 17 is withdrawn in view of applicant(s) amendment to claims.

Claim Rejections - 35 USC § 112

3. Rejections to claims 12-19 under 35 U.S.C. 112, second paragraph are withdrawn in view of applicant(s) amendment to claims.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 30 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
6. Claim 30 recites limitation "wherein control element is a power cylinder" (claim 30, L.1-2) is not found in the specification.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 23-24, 26-28, 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Redhead et al (US 4,595,421) in view of Middlin et al (US 4,840,710).

For claims 23-24, 26, 30 and 31, Redhead et al teach an apparatus for removing deposits from a surface of an electrode (abstract) comprising at least one rotatable member (read as stripping element, Fig.5, #10, col.7, L.6-7) that is turnable about a horizontal axis spaced from the electrode (Fig.5); a stripping element (Fig.5, #10 and

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#18 as a whole) having a fingers (read as an end that is spaced from the horizontal axis/sliding element, Fig.5, #18, col.7, L.15) that moves vertically relative to the electrode during turning of the rotatable member and engages the deposit on the surface of the electrode intermediate a lower and upper edge of the electrode (Fig.5).

Redhead et al remain silent about a control element coupled drivingly to the stripping element for turning the stripping element.

However, examiner takes official notice that providing a control element, for example electric motor, coupled drivingly to the stripping element for turning the rotatable member (read as stripping element) is well known in the art of brush cleaning.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Redhead et al by adding a control element, such as electric motor, coupled drivingly to the stripping element for turning the stripping element successfully.

Redhead et al do not teach a support structure for supporting the electrode substantially stationarily in generally vertical orientation, at least one element for restraining a lower edge of the electrode against horizontal movement; and at least one element for restraining an upper edge of the electrode against horizontal movement; and whereby cooperation of the stripping element and the elements for restraining the lower and upper edges of the electrode against horizontal movement causes bending of the electrode.

Middlin et al teach a device and technique for stripping deposit from an electrode (abstract) comprising a support structure for supporting the electrode (Fig.1, #1, col.2,

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L.3) substantially stationarily in generally vertical orientation having lower reaction bars (read as at least one element, Fig.1, #8 and #9, col.2, L.11) for restraining a lower edge of the electrode against horizontal movement; and upper reaction bars (read as at least one element, Fig.1, #6 and 7, col.2, L.10) for restraining an upper edge of the electrode against horizontal movement; and bending of the electrode while having the reaction bars to restraining the lower and upper edges of the electrode against horizontal movement in cooperation with hydraulic rams (Fig.1, #10 and #11) (Fig.1 and Fig.2, read as cooperation of the stripping element and the elements for restraining the lower and upper edges of the electrode against horizontal movement causes bending of the electrode).

It would have been obvious at the time the invention was made to utilize a support structure for supporting the electrode substantially stationarily in generally vertical orientation, at least one element for restraining a lower edge of the electrode against horizontal movement; and at least one element for restraining an upper edge of the electrode against horizontal movement; and whereby cooperation of the stripping element and the elements for restraining the lower and upper edges of the electrode against horizontal movement causes bending of the electrode as inspired by Middlin et al to enhance cleaning efficiency.

For claims 27-28, note that Redhead et al teach comprising first and second stripping elements for engaging opposite respective surface of the electrode (col.8, L.10-17).

For claim 32, Redhead et al teach a method for removing a deposit on a surface of an electrode comprising the steps of providing at least one rotatable member (read as stripping element, Fig.5, #10, col.7, L.6-7) that is turnable about a horizontal axis spaced from the electrode (Fig.5); and turning a stripping element (Fig.5, #10 and #18 as a whole) having a fingers (read as an end that is spaced from the horizontal axis/sliding element, Fig.5, #18, col.7, L.15) that moves vertically relative to the electrode during turning of the rotatable member and engages the deposit on the surface of the electrode intermediate a lower and upper edge of the electrode (Fig.5).

Redhead et al do not teach the steps of supporting the electrode substantially stationary in a generally vertical orientation; restraining upper and lower edges of the electrode against horizontal movement; and causes bending of the electrode.

However, Middlin et al teach a concept for stripping deposit from an electrode providing the steps of supporting the electrode substantially stationary in a generally vertical orientation (Fig.1 and Fig.2); restraining upper and lower edges of the electrode against horizontal movement (Fig.1 and Fig.2); and causes bending of the electrode (Fig.1 and Fig.2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Redhead et al by having the step of providing the steps of supporting the electrode substantially stationary in a generally vertical orientation; restraining upper and lower edges of the electrode against horizontal movement; and having the stripping element of Redhead et al to press

against the electrode to cause bending as inspired by Middlin et al to enhance separation between the deposit and the electrode, thus improves cleaning efficiency.

For claim 33, note that Middlin et al teach it is also possible to separate deposit with flexing in only one direction (Middlin et al, col.2, L.35-36)

For claim 34, note that Middlin et al teach the steps of bending the electrode first in one direction and thereafter in a second direction opposite said one direction (Middlin et al, Fig.1 and Fig.2).

For claim 35, note that both Redhead et al and Middlin et al teach removing metal from a cathode (Redhead, col.1, L.10-22 and Middlin, abstract).

11. Claims 23-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2164910 in view of Middlin et al (US 4,840,710).

For claims 23, 26, 30 and 31, CA 2164910 teaches an apparatus for removing a deposit on an electrode comprising at least one stripping element (Fig.1, #3) that is turnable about a horizontal axis spaced from the electrode (Fig.1, #50), the stripping element having an end that is spaced from the horizontal axis and moves vertically relative to the electrode during turning of the stripping element and engages the deposit on the surface of the electrode intermediate the lower and upper edges of the electrode (Fig.1, #12 or #13 or #14 or #16).

CA 2164910 remains silent about a control element coupled drivingly to the stripping element for turning the stripping element.

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However, examiner takes official notice that providing a control element, for example electric motor, coupled drivingly to the stripping element for turning the rotatable member (read as stripping element) is well known in the art of brush cleaning.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of CA 2164910 by adding a control element, such as electric motor, coupled drivingly to the stripping element for turning the stripping element successfully.

CA 2164910 does not teach a support structure for supporting the electrode substantially stationarily in generally vertical orientation, at least one element for restraining a lower edge of the electrode against horizontal movement; and at least one element for restraining an upper edge of the electrode against horizontal movement; and whereby cooperation of the stripping element and the elements for restraining the lower and upper edges of the electrode against horizontal movement causes bending of the electrode.

Middlin et al teach a device and technique for stripping deposit from an electrode (abstract) comprising a support structure for supporting the electrode (Fig.1, #1, col.2, L.3) substantially stationarily in generally vertical orientation having lower reaction bars (read as at least one element, Fig.1, #8 and #9, col.2, L.11) for restraining a lower edge of the electrode against horizontal movement; and upper reaction bars (read as at least one element, Fig.1, #6 and 7, col.2, L.10) for restraining an upper edge of the electrode against horizontal movement; and bending of the electrode while having the reaction bars to restraining the lower and upper edges of the electrode against horizontal

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movement in cooperation with hydraulic rams (Fig.1, #10 and #11) (Fig.1 and Fig.2, read as cooperation of the stripping element and the elements for restraining the lower and upper edges of the electrode against horizontal movement causes bending of the electrode).

It would have been obvious at the time the invention was made to utilize a support structure for supporting the electrode substantially stationarily in generally vertical orientation, at least one element for restraining a lower edge of the electrode against horizontal movement; and at least one element for restraining an upper edge of the electrode against horizontal movement; and whereby cooperation of the stripping element and the elements for restraining the lower and upper edges of the electrode against horizontal movement causes bending of the electrode as inspired by Middlin et al to enhance cleaning efficiency.

For claims 24-25, 28 and 29, note that CA 2164910 teaches the stripping element includes a sliding element (Fig.1, #12 or #13 or #14 or #16) at the end of the stripping element for engaging the surface of the electrode, wherein the sliding element is a roller (Fig.1, Fig.4 and Fig.5).

For claims 27, note that CA 2164910 teaches comprising first and second stripping elements for engaging opposite respective surface of the electrode (Fig.1).

For claim 32, CA 2164910 teaches a method for removing a deposit on an electrode comprising the steps of providing at least one stripping element that is turnable about a horizontal axis spaced from the electrode (Fig.1); and turning the stripping element about the horizontal axis whereby an end of the stripping element

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about the horizontal axis, where by an end of the stripping element that is spaced from the horizontal axis engages the deposit on the surface of the electrode intermediate the lower and upper edge of the electrode and moves vertically relative to the electrode (Fig.4 or Fig.5, P.16, L.26-P.17, L.9).

However, Middlin et al teach a concept for stripping deposit from an electrode providing the steps of supporting the electrode substantially stationary in a generally vertical orientation (Fig.1 and Fig.2); restraining upper and lower edges of the electrode against horizontal movement (Fig.1 and Fig.2); and causes bending of the electrode (Fig.1 and Fig.2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of CA 2164910 by having the step of providing the steps of supporting the electrode substantially stationary in a generally vertical orientation; restraining upper and lower edges of the electrode against horizontal movement; and having the stripping element of CA 2164910 to press against the electrode to cause bending as inspired by Middlin et al to enhance separation between the deposit and the electrode, thus improves cleaning efficiency.

For claim 33, note that Middlin et al teach it is also possible to separate deposit with flexing in only one direction (Middlin et al, col.2, L.35-36)

For claim 34, note that Middlin et al teach the steps of bending the electrode first in one direction and thereafter in a second direction opposite said one direction (Middlin et al, Fig.1 and Fig.2).

Response to Arguments

12. Applicant's arguments with respect to claims 23-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN KO whose telephone number is (571)270-3726. The examiner can normally be reached on Monday to Thursday, 7:30am to 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SK

/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792